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Ibo van de Poel and David E. Goldberg (eds): Philosophy and Engineering. An Emerging Agenda

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Since *Philosophy and Engineering. An Emerging Agenda* arrived over the mail, I have picked it up numerous times with the intention to finally read a substantial part of it and form myself an opinion about it. But what makes this somewhat difficult, is that *Philosophy and Engineering* is not so much an edited volume, but a conference proceedings in book-shape. It is the tangible outcome of the 'Workshop on Philosophy and Engineering' (WPE), which took place in October 2007 in Delft (The Netherlands). With 81 participants and 40 paper presentations it was, to co-editor Van de Poel's knowledge, "the largest organized activity bringing together engineers and philosophers in the last two decades." The volume contains no less than 28 of these 40 papers, amounting to about 350 pages. They are divided in three parts: 'Philosophy, 'Ethics', and 'Reflection' (by engineers).

The book's strength is at the same time its weakness: its scope. It does have an explicit focus that sets it apart from much other work; "Whereas science and, to a lesser extent, technology have spurred dedicated philosophical investigations", says Van de Poel in his introductory chapter, "philosophical reflection on engineering is still rare." The volume makes an effort to fill this gap. If one wants to get an impression of the variety of topics that one might study in this new and emerging area, it is a great place to start. The chapters have a nice length for such a first introduction. Some examples of topics addressed are the nature of generalizations in engineering sciences, the limits to system engineering, the role of models in engineering, the importance of integrity for engineers, the engineering profession in France, the responsibility of engineers and teaching ethics to engineers. Let me briefly discuss some of the 10 chapters in the part 'Ethics', which is probably the most interesting for readers of *Science and Engineering Ethics*, to give a better feel for what one can expect to find in this book.

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Luegenbiehl notices that engineers increasingly operative in a globalising world, while engineering ethics is still mainly based on the American model. Features of the latter, such as an emphasis on ethical theory and the ideal of professions, may however not be self-evident for engineers coming from other cultures. He sets out to develop a global engineering ethics, "which derives ethical principles from the nature of engineering and the universal use among engineers of the faculty of reason." The principles that he proposes and discusses in this chapter are the principle of public safety, of human rights, of environmental and animal preservation, of engineering competence, of scientifically founded judgment and of openness and honesty.

Kroesen and Van der Zwaag extensively describe a new role play that they have designed and used in an ethics course for aerospace engineering students. This role play, so they explain, puts more emphasis than usual on the quality of the social relationships between the actors. "The performative dimension of communication is the big surprise of this role game", they say, "and it also appears to be the most difficult part both to enact and digest." Based on their experiences with this role play, they wonder at the end of this chapter what this means for the learning goals of ethics courses in general. They feel that communication and interpersonal relationships deserve more attention, as learning theoretical ethical concepts is not enough. Reference is made in the paper to Habermass and to Rosenstock-Huessy.

Pols investigates how the responsibility of engineers for the artefacts that they create is tranferred to the user at some point. He sketches a theoretical account that combines the use plan approach of Houkes and Vermaas with the theory of responsibility and control of Fischer and Ravizza. This results in a formal analysis that states five conditions that need to be met for an engineer E o transfer moral responsibility for an artefact A to a user U. Although at the end of the chapter he does apply his account to a real-life test case, his contribution clearly stands in the tradition of analytic philosophy of technology.

These three chapters then, can be seen to illustrate the diversity of the selection made by Van de Poel and Goldberg from the conference papers. Surely the volume contains something for everybody. Every time I picked up the book, I noticed another contribution in the table of contents that seemed interesting to read. Yet the large variety in topics covered also makes the cohesion of the volume minimal. In short: not a book to read from cover to cover, but to browse through and to keep as a work of reference. One closing remark: what might be interesting to know, is that this book is the first (although officially the second) to appear in a new Springer book series titled *Philosophy of Engineering and Technology*. Ibo van de Poel is one of the four editors for this book series and responsible for future volumes about ethics of engineering and technology. Something to keep an eye on!